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Algaemaster 10 control

/// Data Sheet

The Algaemaster 10 is a photo bioreactor - the perfect equipment for scientists to re-create the ideal conditions for growing phototrophic organisms such as microalgae. These are increasingly of interest for translational science; e.g. drug discovery in the pharmaceutical industry.

Key features

- Ocean water resistant and completely autoclavable lid and vessel
- Metal-free components for metal-sensitive organisms
- Material touching the product: borosilicate glass, PTFE, Ultem®



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- Computerized control of lighting, temperature, stirring, pH and dosing of liquid or gas
- Customizable lid with nine receptacles
- Effortless data collection via USB drive

Key components

10 L jacketed reactor vessel

Quick fit connectors enable simple use of an IKA chiller with the system. When using a temperature sensor or pH sensor a minimum working volume of six liters is required.

Controller

The controller provides all features necessary for the growing process of the organisms. Two large displays allow simple monitoring of all software settings during trial run period. Nutrients and other liquids can be added by using two peristaltic pumps. Gas is supplied by two gas flow meters. The top and rear controllers provide different interfaces such as RS232 and USB to download data by connecting the device to a PC. With its slim design, it can sit right next to the reactor on the bench.

LED light panels

Two panels for individual and variable lighting conditions are included in the delivery. A total of four panels can be connected at once.

Lid

The customizable lid can be autoclaved. It is made of Ultem® thermoplastic that has been tested for durability. Sensors such as pH or PT 100 for temperature are inserted through the lid using receptacles (6, 8, 12 mm openings; 1/2" NPT threaded).

Stirrer

The speed range of the stirrer is 10 - 100 rpm. The agitator itself is PTFE-coated. The propeller elements are height-adjustable, making it versatile to recreate different wave movement, depending on the species/sample.

Scope of delivery

- 10 L jacketed reactor vessel with quick fit connectors
- Lid made of Ultem®
- Controller unit
- 2 LED light panels
- PT 100 temperature sensor
- pH sensor
- Sparger
- Base plate
- Stirrer motor and stirring element with two height adjustable propellers



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Technical Data

Useable volume [ml]	6000 - 10000
Useable volume with temperature probe min. [ml]	6000
Viscosity max. [mPas]	100
Speed range [rpm]	10 - 100
Permissible ON time [%]	100
Temperature measurement resolution [K]	0.1
pH measuring range [pH]	0 - 13
Accuracy of pH measurement [pH]	0.1
pH measurement resolution [pH]	0.01
Cooling medium temperature [°C]	4 - 60
Speed deviation [±rpm]	5
Speed display	TFT
Heat control	TFT
Connection for ext. temperature sensor	PT 100
Stirring element fastening	special output shaft
Timer	yes
Timer display	TFT
Speed control	1 RPM steps
Type of cooling	flow
Temperature display	yes
Temperature control	PT 100
Working temperature sensor	PT 100
Working temperature display	TFT
Display for operation with ext. sensor	yes
Reversible direction of rotation	yes
pH meter interface	yes
pH value display	TFT
Dimensions (W x H x D) [mm]	800 x 1000 x 600
Weight [kg]	38
Permissible ambient temperature [°C]	5 - 40
Permissible relative humidity [%]	80
Protection class according to DIN EN 60529	IP 21
RS 232 interface	yes
USB interface	yes
Voltage [V]	100 - 240
Frequency [Hz]	50/60
Power input [W]	375